

## REMARKS/ARGUMENTS

### ***Status of Claims***

Claims 1-19 stand rejected.

Claim 15 is currently amended.

Thus, claims 1-19 are pending in this patent application.

The Applicants hereby request further examination and reconsideration of the presently claimed application.

### ***Drawing Objections***

The Examiner asserted that “a controller for receiving a request signal from the WDM system to instruct the switching device to switch signals in specified working channels to specified protection channels and to switch signals in specified protection channels to specified working channels” in the independent claims 1, 6, 10 and 15 should be shown in the drawing(s) or canceled from the claims. The Applicants respectfully submit that the feature indicated by the Examiner is not stated in the independent claims 1, 6, 10 and 15, and therefore updated drawings are not necessary.

### ***Claim Rejection – 35 U.S.C. § 103***

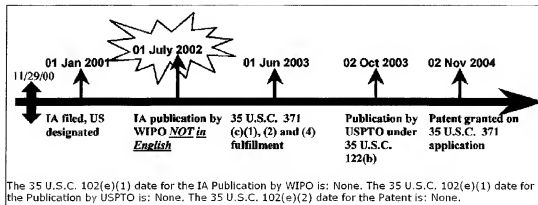
Claims 1-3, 5-8, 10-12, 14-17, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over European Patent Application Publication 1 054 524 (*Kubo*) in view of U.S. Patent 7,546,034 (*Mueller*). Claims 4, 9, 13, and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kubo* in view of *Mueller* and U.S. Patent Application Publication 2003/0161629 (*Frascolla*). Claims 2-9 and 19 depend on independent claim 1, claims 11-14 depend on independent claim 10, and claims 16-18 depend on independent claim 15. Thus, claims 1-19 stand or fall on the application of the combination of *Kubo* and *Mueller* to

independent claims 1, 10, and 15. The United States Supreme Court in *Graham v. John Deere Co. of Kansas City* noted that an obviousness determination begins with a finding that “**the prior art as a whole in one form or another contains all**” of the elements of the claimed invention. See *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 22 (U.S. 1966) (emphasis added). The Applicants respectfully assert that: (1) *Mueller* is not prior art, and (2) the combination of *Kubo* and *Mueller* fails to disclose all of the elements of independent claims 1, 10, and 15. Consequently, the combination of *Kubo* and *Mueller* fails to render obvious claims 1-19.

*Mueller* is not prior art for the present application because *Mueller* does not have a § 102(a), (b), or (e) prior art date. *Mueller* was published on June 9, 2009, which is after the present application was filed. Thus, *Mueller* does not have a § 102(a) or (b) date. In addition, *Mueller* is not available as § 102(e) prior art. Specifically, MPEP § 706.02(f)(1) provides the examination guidelines for classifying prior art under § 102(e). MPEP § 706.02(f)(1)(II) provides nine examples of fact patterns associated with references that may potentially be § 102(e) prior art. *Mueller* is a § 371 national stage application of an International Application that was filed after November 29, 2000 and published in German, not English. As such, *Mueller* fits the fact pattern identified in MPEP § 706.02(f)(1)(II) Example 5:

**Example 5:** References based on the **national stage (35 U.S.C. 371)** of an **International Application filed on or after November 29, 2000** and which was **not published in English** under PCT Article 21(2).

All references, whether the WIPO publication, the U.S. patent application publication or the U.S. patent, of an international application (IA) that was filed on or after November 29, 2000 but was **not published in English** under PCT Article 21(2) **have no 35 U.S.C. 102 (e) prior art date at all. According to 35 U.S.C. 102 (e), no benefit of the international filing date (nor any U.S. filing dates prior to the IA) is given for 35 U.S.C. 102 (e) prior art purposes if the IA was published under PCT Article 21(2) in a language other than English, regardless of whether the international application entered the national stage.** Such references may be applied under 35 U.S.C. 102 (a) or (b) as of their publication dates, but never under 35 U.S.C. 102 (e).



(Emphasis added). As shown above, references that meet the fact pattern in MPEP § 706.02(f)(1)(II) Example 5, such as *Mueller*, are not available as § 102(e) prior art. As such, *Mueller* is not prior art for the present application.

Even if *Mueller* was prior art, the combination of *Kubo* and *Mueller* fails to render obvious claims 1-19. Specifically, the combination of *Kubo* and *Mueller* fails to render obvious claims 1-19 because the combination of *Kubo* and *Mueller* fails to disclose that the protection channel and the working channel are specified by the first switching request and the second switching request from the wavelength division multiplexed (WDM) system. Claims 1, 10, and 15 read:

1. A WDM layer-based OchP (Optical Channel Protection) device capable of signal transmission through and routing between working channels and protection channels to/from a WDM system, comprising

...  
a switching device designed to switch signals in specified working channels to specified protection channels and to switch signals in specified protection channels to specified working channels according to switching requests from the WDM system; wherein M and N are natural numbers and  $M < N$ .

10. A WDM layer-based optical channel protection device for a multi-channel WDM system comprising

...  
wherein the transmitter switching unit and the receiver switching unit are designed to switch signals in specified working channels to specified protection channels or switch signals in specified protection channels back to

specified working channels according to switching requests from the WDM system, and M is less than N.

15. A WDM layer-based optical channel protection method using the WDM layer-based optical channel protection device for a multi-channel WDM system according to claim 10, comprising

...

switching, by the transmitter switching unit or/and the receiver switching unit, the signal in the working channel to a protection channel or switching the signal in the protection channel back to a working channel according to the switching requests from the WDM system,

wherein the multi-channel WDM system comprises N working channels and M protection channels, M being less than N, and

wherein the protection channel and the working channel are specified by the first switching request and the second switching request from the WDM system.

(Emphasis added). As shown above, claims 1, 10, and 15 require that the protection channel and the working channel are specified by (e.g. included in) the first switching request and the second switching request from the WDM system. As described in the specification:

Said device works as follows: in normal cases, the OChP module chooses corresponding working channels for N-way signals entering said OChP module to access the WDM system to transmit; at the receiving end, the OChP module similarly chooses working channels to receive the signals; at this time, no traffic is transmitted in the protection channels, or the traffic transmitted through the protection channels will not be received by the OChP receiving module. In case the quality of signals in m channels ( $1 \leq m \leq M$ ) is degraded or lost due to channel failure, the OChP transmitting module switches the signals to protection channels to transmit; while the rest N-m signals are transmitted through the working channels; at the receiving end, the OChP module chooses corresponding protection channels to receive said m signals, and the rest N-m signals are received by the working channels. If a working channel for a signal currently transmitted through the protection channel recovers, the OChP module switches the signal back to the working channel.

Here, whether the signal in a working channel is switched to a protection channel is determined by the performance of the working channel and is solely determined by the corresponding receiver in the WDM system without any additional detection device because all receivers in the WDM system possess the function. In addition, whether the signals transmitted through a protection channel are switched back to the working channel also is determined by the performance of the working channel; therefore, the protection solution is WDM layer-based.

Specification, ¶¶ 26-27 (emphasis added). The Examiner admits that *Kubo* fails to disclose a switching device designed to switch signals according to switching requests from the WDM system. See Office Action dated April 15, 2010, p. 5. Instead, the Examiner asserts that *Kubo*'s Figures 3 and 5 and paragraphs 46-48 render obvious the above limitation. As described above, obviousness is a legal determination that begins with a finding that "the prior art as a whole in one form or another contains all" of the elements of the claimed invention. See *Graham, supra*. The cited sections of *Kubo* read:

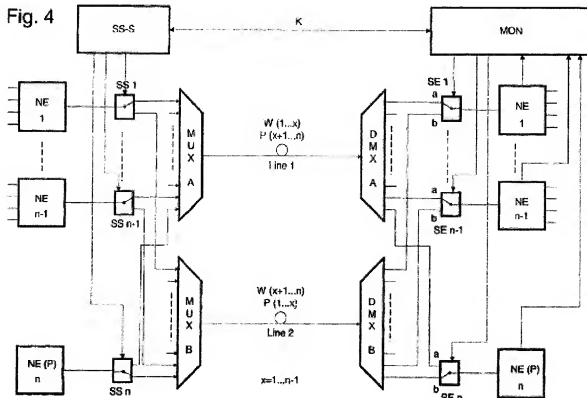
Fig. 5 is a flowchart illustrating an optical redundant switching method in an embodiment 3 of the optical wavelength multiplex system in accordance with the present invention. In the present embodiment 3, in the normal operation mode of the operation systems, the optical output with the standby wavelength is extinguished. If a fault takes place in one of the operating systems, the validity of the standby system is checked by emitting the optical output with the standby wavelength, and then the operating channel of the faulty operating system is switched to the standby optical terminal unit. When the faulty operating system is recovered, and the validity of the operating system is confirmed by emitting the optical output of the operating system, the optical output of the standby system is extinguished, and the switching to the recovered operating system is carried out.

Next, the operation of the present embodiment 3 will be described.

**The optical output of the standby wavelength is extinguished (step ST11) in the normal operation mode of the operating systems. If a fault takes place in any one of the operating systems (step ST12), the optical output of the standby wavelength is emitted (step ST13). The validity of the standby system is checked (step ST14), and the operating channel connected with the faulty operating system is switched to the standby optical terminal units 25a and 25b by the switching units 28a and 28b (step ST15).** Subsequently, the faulty operating system is recovered (step ST16). After completing the recovery of the operating system, the optical output of the standby system is extinguished (step ST17). At the same time, the optical output of the recovered operating system is emitted (step ST18) to check its validity (step ST19). If the check result indicates an error, the optical output of the operating system is extinguished again (step ST20), and the optical output of the standby system is emitted again (step ST21) to carry out the recovery job (step ST16). When the faulty operation system becomes complete, the operating channel connected to the standby system is switched back to the original operating system (step ST22).

*Kubo*, ¶¶ 46-48 (emphasis added). As shown above, *Kubo* fails to disclose a switching device designed to switch signals according to switching requests from the WDM system. Instead, *Kubo* discloses that in the normal operation mode of the operation systems, the optical output with the standby wavelength is extinguished. If a fault takes place in one of the operating systems, the validity of the standby system is checked by emitting the optical output with the standby wavelength, and then the operating channel of the faulty operating system is switched to the standby optical terminal unit. It can be seen that this portion generally discloses the switching from the faulty operating system to the standby optical terminal unit, and mainly illustrates how the gains of the amplifier can be adjusted according to changes in the number of wavelengths involved in the redundant switching by a conventional optical redundant switching method, i.e., the optical outputs of standby systems are extinguished in normal operation mode (ST11 in Figure 5) and the optical outputs of standby systems are emitted if fault occurs in operating systems (ST13 in Figure 5). Thus, *Kubo's* Figures 3 and 5 and paragraphs 46-48 cannot render obvious the above limitation because *Kubo* fails to disclose the above limitation.

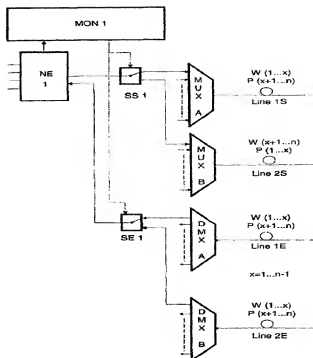
*Mueller* fails to make up for the deficiencies in *Kubo* because *Mueller* also fails to disclose that the protection channel and the working channel are specified by the first switching request and the second switching request from the WDM system. The Examiner cites *Mueller's* FIG. 4 as disclosing the above limitation:



As shown above, *Mueller's* switches are preconfigured to switch between two paths. For example, switch SS1 can switch between Line 1 (via MUX A) or Line 2 (via MUX B). Specifically, *Mueller's* switching request does not need to specify a working path and a protection path because there is only one switching option for each switch:

The principle of the method used here is shown in more detail in FIG. 6, in which both the outward and return directions of the network element NE 1 are now shown. The monitor circuit MON 1 sets the transmission and reception side switches SS 1 and SE 1 both in the same direction. **The setting of the reception side switch SE 1 is used in this case as preset**, with the transmission side switch SS 1 then being set in the same direction.

Fig. 6



To explain the functioning in more detail, it is first of all assumed that, in the transmission direction, the data transmission line Line 1S and in the reception direction data transmission line Line 1E are operated as a working link.

At the opposite side, the network element NE 1 then receives no signal on the data transmission line Line 1S and, therefore, also switches to the data transmission line Line 2S. The automatic switching from data transmission line Line 1 to data transmission line Line 2 is thus carried out. To avoid this causing periodic switching operations, the switches must remain in the new setting for a certain time after switching to enable the opposite point to switch over.

*Mueller*, col. 6, ll. 9-13, FIG. 6, and col. 6, ll. 19-26 (emphasis added). As shown above, *Mueller's* switch SS1 is preset such that the data is automatically switched to a predefined protection channel (i.e. Line 2S) in the event of a failure of the working channel (i.e. Line 1S). In addition, *Mueller's* switching request is from the MON/SS-S, not the WDM system. Thus, *Mueller* fails to disclose that the protection channel and the working channel are specified by the first switching request and the second switching request from the WDM system. As such, the combination of *Kubo* and *Mueller* fails to disclose at least one limitation of independent claims



1, 10, and 15, and consequently fails to render obvious claims 1-19.

***Finality of Next Office Action***

The Applicant would like to point out that claims 1-14 are not currently amended. The Applicant would also like to remind the Examiner of the rules regarding finality of office actions. Specifically, MPEP § 706.07(a) states that the next office action should not be final if the Examiner changes the grounds of rejection for claims 1-14. Should the Examiner insist on making the next office action final based on a new ground of rejection, the Applicant requests a telephone conference with the Examiner and the Supervisory Patent Examiner to clarify the finality issue, and thereby potentially avoid a petition under 37 C.F.R. § 1.181.

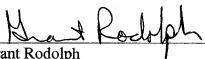
### CONCLUSION

Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections and objections is respectfully requested by the Applicants. No new matter is introduced by way of the amendment. It is believed that each ground of rejection raised in the Office Action dated April 16, 2010 has been fully addressed. If any fee is due as a result of the filing of this paper, please appropriately charge such fee to Deposit Account Number 50-1515 of Conley Rose, P.C., Texas. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Respectfully submitted,  
CONLEY ROSE, P.C.

Date: 7/16/10

  
Grant Rodolph  
Reg. No. 50,487

5601 Granite Parkway, Suite 750  
Plano, TX 75024  
(972) 731-2288  
(972) 731-2289 (Facsimile)

ATTORNEY FOR APPLICANTS